

ABSTRACT OF THE DISCLOSURE

A combined signal of a digital pilot signal and a digital transmission signal is applied to a digital predistorter (20), wherein it is added with odd-order distortions based on a power series model to generate a predistorted signal, then the predistorted signal is converted by a DA converter (31) to an analog signal, then the analog signal is upconverted by a frequency upconverting part (33) to a send frequency band, and the upconverted signal is output after being amplified by a power amplifier (37). A pilot signal component is extracted from the power amplifier output, then odd-order distortion components of the power series model are extracted by a digital predistorter control part (50) from the pilot signal component, and the odd-order distortions in the digital predistorter (20) are controlled to decrease the levels of the distortion components.

15

20

25